



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,859	10/18/2004	Hanan Herzberg	37476	5049
67801 7590 09/09/2010 MARTIN D. MOYNIHAN d/b/a PRTSI, INC. P.O. BOX 16446 ARLINGTON, VA 22215				
EXAMINER				
FLORES, LEON				
ART UNIT		PAPER NUMBER		
2611				
MAIL DATE		DELIVERY MODE		
09/09/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/511,859

Applicant(s)

HERZBERG, HANAN

Examiner

LEON FLORES

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) 1-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/26/2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims (56-61, 63-64, 77-78) are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Brink et al. (hereinafter Brink) (US Publication 2003/0174765 A1)**

Re claim 56, Brink discloses a method of monitoring a modem connection, comprising: connecting a line interface to a communication link carrying signals of a modem connection, between a pair of end modems separate from the line interface (See fig. 1 & ¶s 87-97); passively collecting signals passing on the communication link, between the end modems, through the line interface. (See fig. 1: 4, 5 & ¶s 90, 93, 97 "voltage probe")

But the reference of Brink fails to explicitly teach determining one or more physical quality or transmission characteristics regarding the modem connection, responsive to the collected signals; and providing information on the modem connection, responsive to the collected signals.

However, the reference of Brink does suggest determining one or more physical quality or transmission characteristics regarding the modem connection, responsive to the collected signals (See ¶ 93 "measuring upstream and downstream performance" "measuring the level between node A2 and B2" & ¶ 97 "the signal and noise levels are probed".); and providing information on the modem connection, responsive to the collected signals. (See fig. 1: 5 "level detector" & ¶ 90 "voltage probe is connected with level detectors such as a spectrum analyzer". Alternatively, ¶ 98 does teach these devices may connect to a Central Processing Unit (CPU) and this connection may involve data links for remote testing by the CPU.)

Therefore, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Brink, in the manner as claimed, for the

benefit of measuring the upstream and downstream performance in a xDSL system.

(See ¶ 93)

Re claim 57, Brink further discloses determining quality or transmission characteristics regarding the modem connection, responsive to signals collected through the line interface, and wherein providing information on the modem connection comprises providing information on the determined characteristics. (See fig. 1: 5 "level detector" & ¶ 90 "voltage probe is connected with level detectors such as a spectrum analyzer". Alternatively, ¶ 98 does teach these devices may connect to a Central Processing Unit (CPU) and this connection may involve data links for remote testing by the CPU.)

Re claim 58, Brink further discloses wherein the modem connection comprises an xDSL modem connection. (See ¶ 91)

Re claim 59, Brink further discloses wherein collecting signals passing on the communication link comprises collecting without sending to either of the modems acknowledgment signals or any other modem tangible signals. (See fig. 1 & ¶s 93-97)

Re claim 60, Brink further discloses wherein providing information on the modem connection comprises displaying the contents of one or more modem negotiation signals. (See fig. 1: 5 & ¶ 90)

Re claim 61, Brink further discloses wherein providing information on the modem connection comprises providing information on noise levels on the connection. (See fig. 1: 4, 5 & ¶ 90, 93, 97)

Re claim 63, the reference of Brink fails to explicitly teach that wherein providing information on the modem connection comprises providing information on the symbol mapping used by the connection.

However, the reference of Brink does suggest (See fig. 1) that wherein providing information on the modem connection comprises providing information on the symbol mapping used by the connection. (See ¶ 91. It is notoriously known in the art the use of symbol mapping in a xDSL system. Furthermore, each of the modems are capable of performing modulation/demodulation. Alternatively, ¶ 98 does teach these devices may connect to a Central Processing Unit (CPU) and this connection may involve data links for remote testing by the CPU.)

Therefore, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Brink, in the manner as claimed, for the benefit of measuring the upstream and downstream performance in a xDSL system. (See ¶ 93)

Re claim 64, Brink further discloses wherein providing information on the modem connection comprises displaying information on signaling signals transmitted in parallel to data transmission. (In Brink, see fig. 1)

Re claim 77, Brink further discloses extracting the data transmitted on the modem connection. (In Brink, see fig. 1)

Claim 78 is an apparatus claim corresponding to method claim 56. Hence, the steps performed in method claim 56 would have necessitated the elements in apparatus claim 78. Therefore, claim 78 has been analyzed and rejected w/r to claim 56 above.

5. Claims (65, 70-71, 73, 75-76) are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Brink et al (hereinafter Van Den Brink) (US Publication 2003/0174765 A1 in view of Conklin et al. (hereinafter Conklin)(US Patent 5,991,881)

Re claim 65, A method according to claim 56, and further comprising performing signal tests on test signals transmitted on the connection. (See fig. 1)

But the reference of Brink fails to explicitly teach comparing the results of the tests to negotiation signals reporting test results from one of the modems.

However, Conklin does. (See col. 4, lines 30-51 & col. 5, lines 46-61) Conklin discloses a system for network surveillance and detection of attempted intrusions. The system is comprised of a network observation, intrusion detection, alert notification, evidence logging, and an incident analyzer/reporter.

Therefore, taking the combined teachings of Brink & Conklin as a whole, it would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Brink, in the manner as claimed and as taught by Conklin, for the

benefit of preventing attempted intrusion into the network. (See abstract)

Re claim 70, the reference of Brink fails to explicitly teach identifying changes in the operation of the modem connection and providing suggested causes of the changes.

However, Conklin does. (See col. 4, lines 30-51 & col. 5, lines 46-61) Conklin discloses a system for network surveillance and detection of attempted intrusions. The system is comprised of a network observation, intrusion detection, alert notification, evidence logging, and an incident analyzer/reporter.

Therefore, taking the combined teachings of Brink & Conklin as a whole, it would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Brink, in the manner as claimed and as taught by Conklin, for the benefit of preventing attempted intrusion into the network. (See abstract)

Re claim 71, the combination of Brink & Conklin further discloses where the causes are at least a retrain or a bit swap. (In Conklin, see col. 4, lines 30-51 & col. 5, lines 46-61)

Re claim 73, the combination of Brink & Conklin further discloses and wherein at least one of the suggested causes belongs to a group comprising: an unusual noise level; a low Signal to Noise Ratio; a high attenuation level; and a modem suffering from skew. (In Brink, see ¶s 90-97)

Re claim 75, the reference of Brink fails to explicitly teach wherein providing information on the modem connection comprises providing a warning on a possible tapping of the communication link.

However, Conklin does. (See col. 4, lines 30-51 & col. 5, lines 46-61) Conklin discloses a system for network surveillance and detection of attempted intrusions. The system is comprised of a network observation, intrusion detection, alert notification, evidence logging, and an incident analyzer/reporter.

Therefore, taking the combined teachings of Brink & Conklin as a whole, it would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Brink, in the manner as claimed and as taught by Conklin, for the benefit of preventing attempted intrusion into the network. (See abstract)

Re claim 76, the combination of Brink & Conklin further discloses and wherein the warning on a possible tapping of the communication link is based, at least in part, on comparing measured spectrums of noise to configured expected spectrums of noise added by a line tapping unit. (In Conklin, see col. 4, lines 30-51 & col. 5, lines 46-61)

6. Claims (62, 72) are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Brink et al (hereinafter Brink) (US Publication 2003/0174765 A1 in view of Conklin et al (hereinafter Conklin)(US Patent 5,991,881), as applied to claim 70 above, and further in view of Zuranski et al. (hereinafter Zuranski) (US Patent 6,445,733 B1)

Re claim 62, the combination of Brink & Conklin fail to teach wherein providing information on the modem connection comprises providing information on efficiency or data integrity effects in upper layers caused by the noise levels on the connection.

However, Zuranski does. (See col. 11, lines 10-29 & col. 14, line 63 -col. 15, line 2) Zuranski suggests that wherein providing information on the modem connection comprises providing information on efficiency or data integrity effects in upper layers caused by the noise levels on the connection.

Therefore, taking the combined teachings of Brink, Conklin and Zuranski as a whole, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Brink, as modified by Conklin, in the manner as claimed and as taught by Zuranski, for the benefit of adjusting the data rate.

Re claim 72, the combination of Brink & Conklin fails to teach and wherein at least one of the changes identified belongs to a group comprising: a request for retransmission of data; CRC errors; corrupted bits; low performance of Reed Solomon decoding; and a request for a change in bit allocation of a frequency band.

However, Zuranski does. (See col. 9, lines 13-20) Zuranski discloses identifying data retransmissions and providing suggested causes of the data retransmissions.

Therefore, taking the combined teachings of Brink, Conklin and Zuranski as a whole, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Brink, as modified by Conklin, in the manner as claimed and as taught by Zuranski, for the benefit of adjusting the data rate.

7. Claims (66-69, 79) are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Brink et al (hereinafter Van Den Brink) (US Publication 2003/0174765 A1) in view of Downey. (US Patent 6,690,720 B1)

Re claim 66, the reference of Brink fails to explicitly teach forcing a retrain of the modem connection by a same apparatus as collects the signals passing on the communication link.

However, Downey does. (See figs. 1 & 3 & col. 5, lines 1-23) Downey discloses a system for training/re-training the connection of two modems.

Therefore, taking the combined teachings of Van Den Brink and Downey as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature into the system of Van Den Brink, in the manner as claimed and as taught by Downey, for the benefit of providing training to the modems.

Re claim 67, the combination of Brink & Downey fails to explicitly teach forcing the retrain of the modem connection comprises connecting a low impedance circuit, for at least some of the frequency bands carrying signals, to the communication link.

However, the reference of Downey does suggest See figs. 1 & 3 & col. 5, lines 1-23) forcing the retrain of the modem connection comprises connecting a low impedance circuit, for at least some of the frequency bands carrying signals, to the communication link. (it is notoriously well known in the art to use a low impedance circuit in order to inject noise. See US Publication 2004/0095167 A1)

Therefore, it would have been obvious to one of ordinary skills in the art to

incorporate this feature into the system of Brink, as modified by Downey, in the manner as claimed, for the benefit of not disturbing signals generated by the xDSL modems.

Re claim 68, the combination of Brink & Downey further discloses wherein the modem connection comprises a DSL connection and wherein the forcing of the retrain does not interfere with voice frequency bands of the communication link. (In Downey, see figs. 1 & 3 & col. 5, lines 1-23. Furthermore, it is notoriously known in the art that voice frequency bands are located at different frequencies. Alternatively, it is notoriously known in the art that noise injected to the line does not interfere with other frequency bands. See US Patent 6,002,677)

Re claim 69, the combination of Brink & Downey further discloses wherein the modem connection comprises a voice band modem connection. (In Brink, see ¶ 91)

Claim 79 is an apparatus claim corresponding to method claim 67. Hence, the steps performed in method claim 67 would have necessitated the elements in apparatus claim 79. Therefore, claim 79 has been analyzed and rejected w/r to claim 67 above.

8. **Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Brink et al (hereinafter Brink) (US Publication 2003/0174765 A1) in view of Linzy (US Patent 6,718,384 B2)**

Re claim 74, the reference of Brink fails to explicitly teach wherein providing information on the modem connection comprises displaying a raw bit content of signals transmitted on the modem connection.

However, Linzy does. (See fig. 6 & col. 6, lines 30-46) Linzy discloses a graphical user interface (GUI) for monitoring communication networks. It is comprised of a terminal window containing passive TL1 commands (generic retrieves) designed to assist the user in acquiring information about the network. The TL1 messages may be obtained by "listening" to message traffic on communication network.

Therefore, taking the combined teachings of Brink and Linzy as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature into the system of Brink, in the manner as claimed and as taught by Linzy, for the benefit of monitoring the communication network.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON FLORES whose telephone number is (571)270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Leon Flores/
Examiner, Art Unit 2611
September 6, 2010**

